Kotov Semen

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Education

Eötvös Loránd University (ELTE) Budapest, Hungary
BSc in Computer Science (GPA 4.6/5.0) 2023 – July 2026

Skills

Languages	Rust, C/C++, Go, C#, Java, TypeScript, Python, Haskell, Prolog
Technologies	Azure, Git, Svelte, Docker, Tokio, Tauri, SQL Server, Prometheus, Spring
Other	FP, OOP, Computer Graphics, Agile, REST API, Linux, CI/CD

Work Experience

BlackRock, Java Software Developer | *Java, Spring* June 2024 – May 2026

- Worked part-time on the global trading team.
- Improved latency and fault tolerance of in-house networking protocol (BMS).
- Optimized cache replication in microservices, reducing number of messages from 49M to 2.5M
- Rolled out new telemetry across core trading services, paired with Grafana dashboards.
- Was responsible for the migration of two trading services from Sybase to SQL Server.

Projects

Tonic, Cross-platform spreadsheet (GitHub, Blog) | *Rust, Tokio, TypeScript* April 2026

- Desktop spreadsheet app built with Tauri (Rust backend, Svelte frontend), featuring a fully custom spreadsheet engine and UI: formulas, filtering and sorting, undo/redo, tables, and more.
- Implemented a parallel formula calculation algorithm in async Rust inspired by Kahn topological sort, achieving a 4x performance increase over the synchronous baseline.
- Implemented the TACO dependency graph compression, with spatial indexing via an R-Tree.
- Built a formula parser with chumsky crate, utilizing Flat AST for cache locality.
- Added support for user-defined functions written in JavaScript.

Low-overhead caching library with high hit rates (GitHub) | *Rust* August 2025

- Implemented S3-FIFO eviction strategy with adaptive sharding for parallelization.
- Achieved up to 73% hit rate and 130 μs latency with a cache of 1,500 entries over 10,000 elements.

Desktop app for data logger analytics (GitHub) | *C#* July 2023

- Implemented the Douglas-Peucker algorithm, reducing number of points on the graph by 360%.

Hobbies

Hiking, films and music: kotow.dev/hobbies